AMSER Case of the Month June 2024

79-year-old male with a history of smoking and an enlarged right-sided supraclavicular lymph node undergoes evaluation for presumed lung cancer

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Patient Presentation

- HPI: an asymptomatic 79-year-old man presents to his PCP for evaluation of an enlarged right-sided supraclavicular lymph node after it was discovered incidentally by his dental hygienist
- Pertinent history:
  - Past medical history: HTN, HLD, GERD
  - Past surgical history: hernia repair
  - Medications: lisinopril, simvastatin, pantoprazole
  - Social history: 40 pack year smoking history, quit >20 years ago
  - Family history: mother had breast cancer

Patient Presentation

- Pertinent physical exam:
  - Vitals: within normal limits
  - Neck: 1 cm oval, mobile, right-sided supraclavicular lymph node
  - Pulmonary: wheezing in RUL
  - Abdomen: non-tender, non-distended

What Imaging Should We Order?

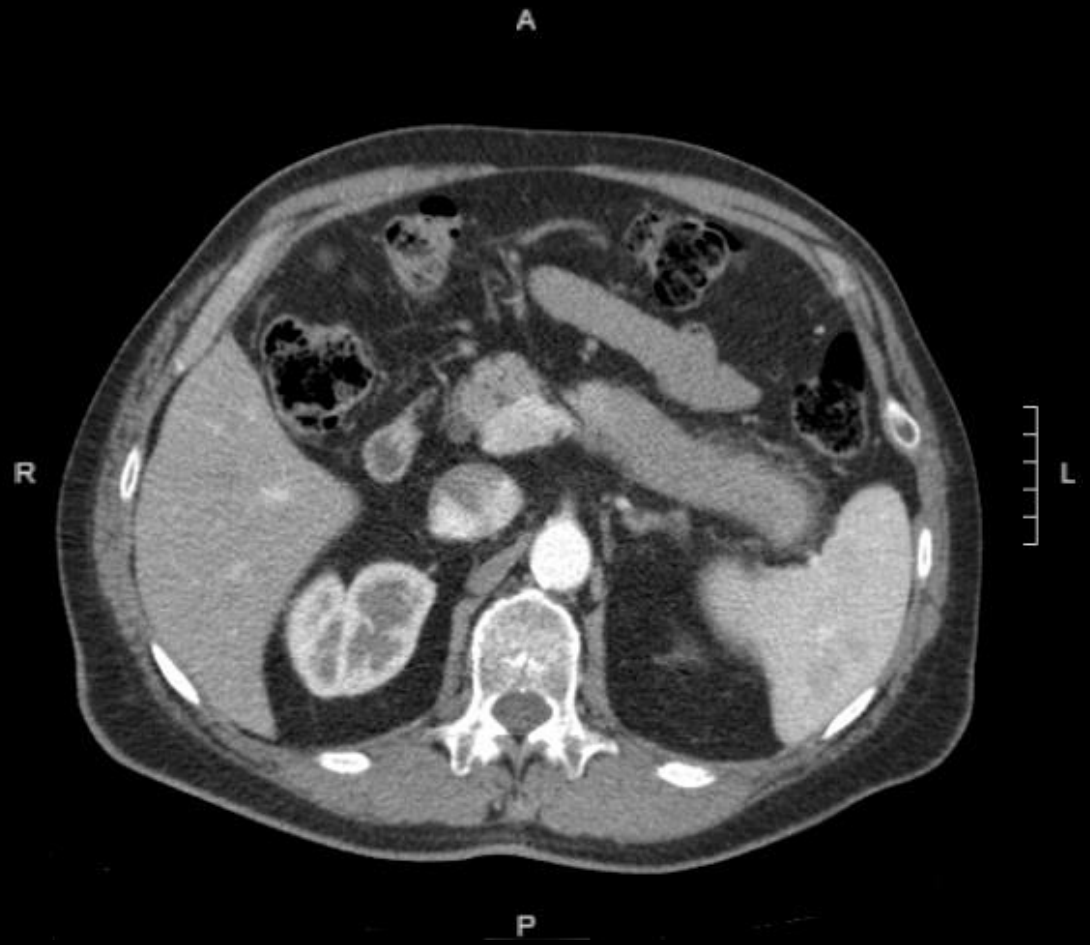
Select the applicable ACR Appropriateness Criteria

Variant 1: **Noninvasive initial clinical staging of non–small-cell lung carcinoma.**

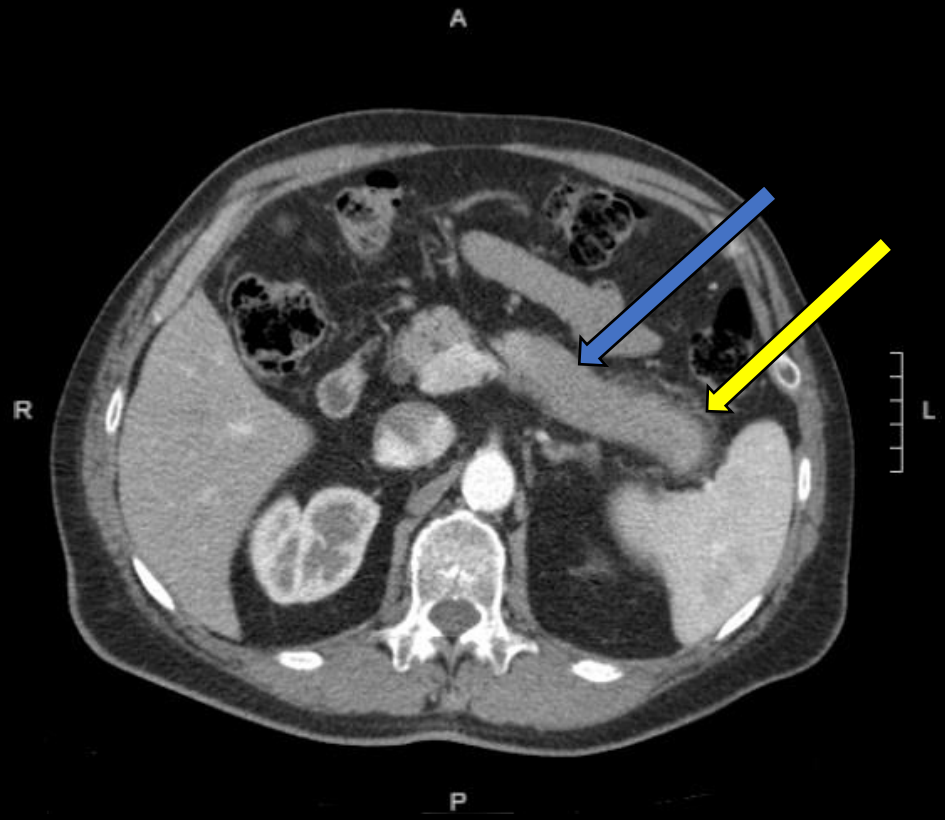
Procedure	Appropriateness Category	Relative Radiation Level
CT chest with IV contrast	Usually Appropriate	☢☢☢
FDG-PET/CT skull base to mid-thigh	Usually Appropriate	☢☢☢☢
MRI head without and with IV contrast	Usually Appropriate	O
CT chest without IV contrast	Usually Appropriate	☢☢☢
CT abdomen and pelvis with IV contrast	May Be Appropriate	☢☢☢
CT head with IV contrast	May Be Appropriate	☢☢☢
CT head without and with IV contrast	May Be Appropriate	☢☢☢
MRI abdomen without and with IV contrast	May Be Appropriate	O
MRI chest without and with IV contrast	May Be Appropriate	O
MRI head without IV contrast	May Be Appropriate	O
Bone scan whole body	May Be Appropriate	☢☢☢
CT abdomen and pelvis without and with IV contrast	May Be Appropriate	☢☢☢☢
CT abdomen and pelvis without IV contrast	May Be Appropriate	☢☢☢
MRI abdomen without IV contrast	May Be Appropriate	O
CT head without IV contrast	Usually Not Appropriate	☢☢☢
MRI chest without IV contrast	Usually Not Appropriate	O
CT chest without and with IV contrast	Usually Not Appropriate	☢☢☢
Radiography chest	Usually Not Appropriate	☢

These imaging modalities were ordered by the primary care provider

CT Chest with IV Contrast Incidental Findings (unlabeled)

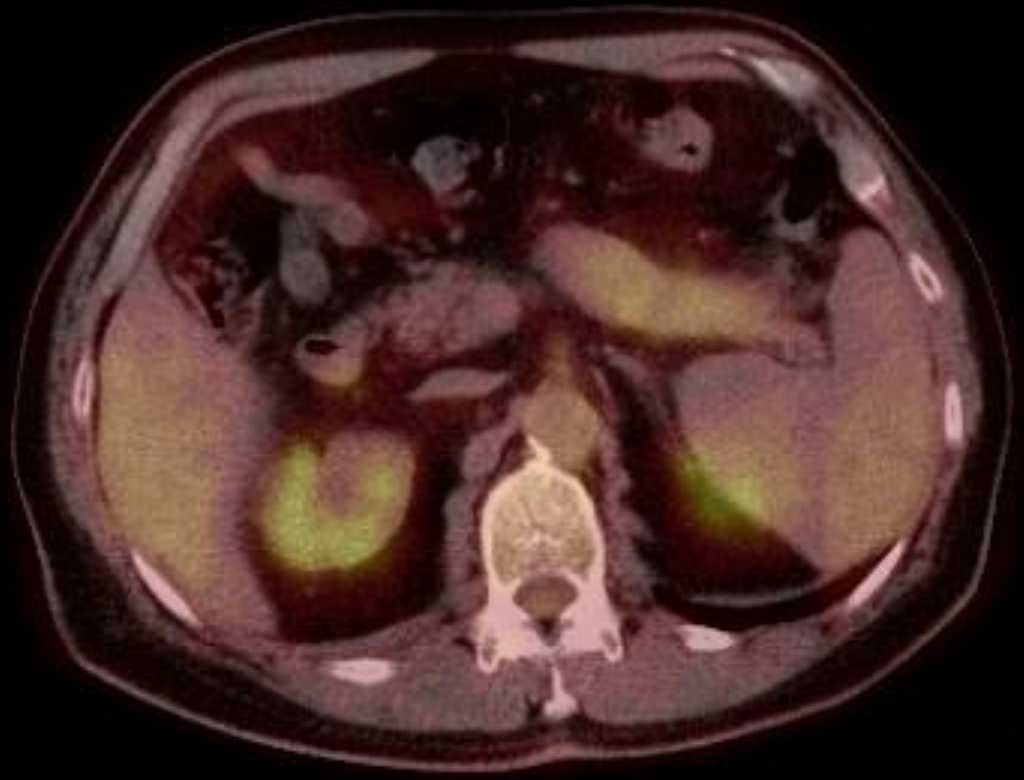


CT Chest with IV Contrast Incidental Findings (labeled)

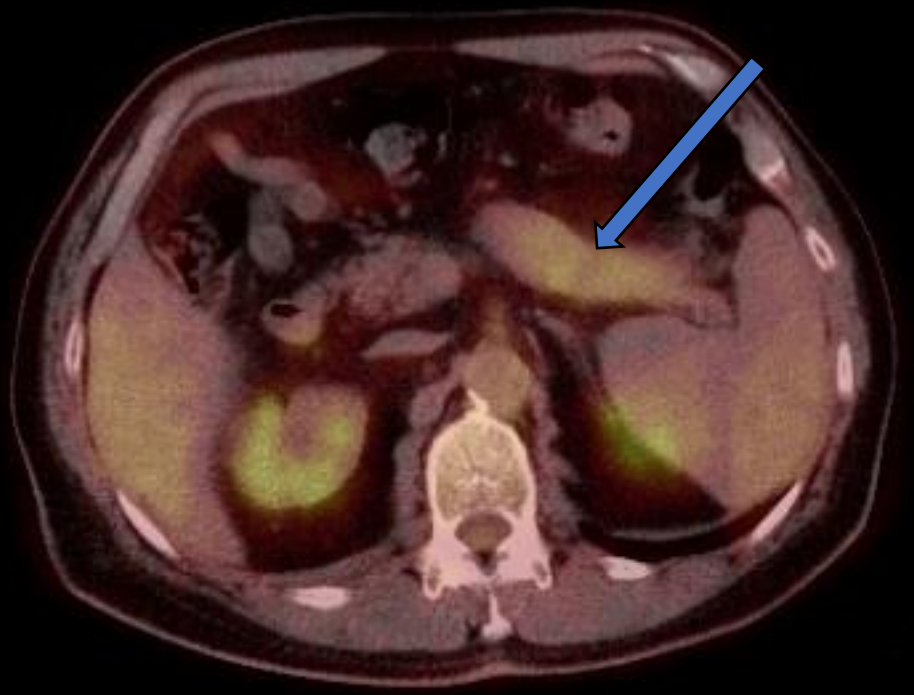


Axial CT with IV contrast showing diffuse enlargement of the pancreas, appearing "sausage-like" (blue arrow) along with a peripancreatic "halo" of low attenuation (yellow arrow).

FDG-PET/CT Skull to Mid Thigh Incidental Findings (unlabeled)



FDG-PET/CT Skull to Mid Thigh
Incidental Findings (labeled)



Axial PET/CT showing diffuse increased uptake in the pancreas (blue arrow).

Pertinent Labs

- Lipase: 21 (normal)
- IgG4: 257 (elevated)

What Imaging Should We Order?

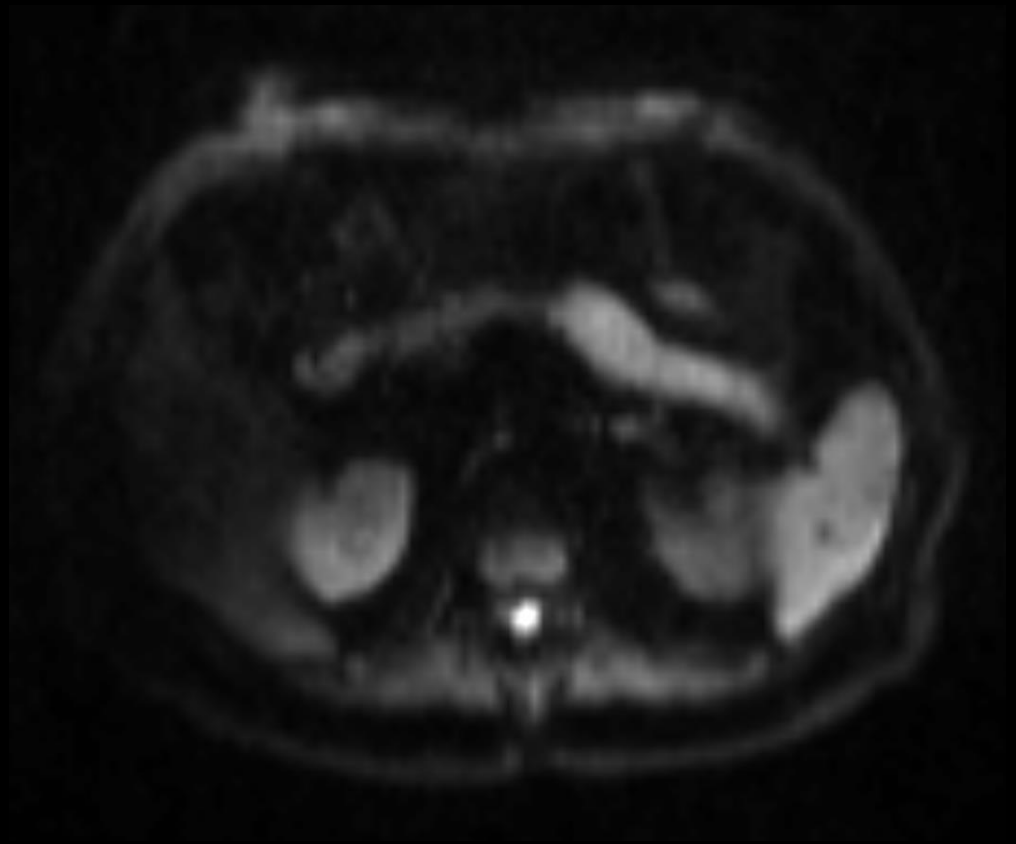
Select the applicable ACR Appropriateness Criteria

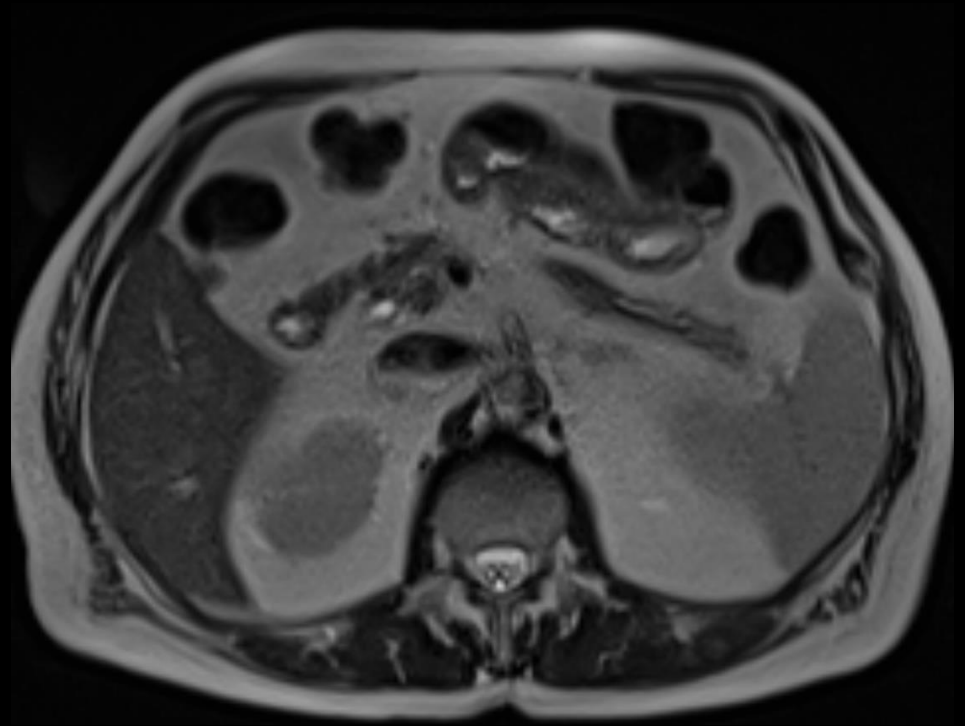
Variant 2: **Suspected acute pancreatitis. Initial presentation with atypical signs and symptoms; including equivocal amylase and lipase values (possibly confounded by acute kidney injury or chronic kidney disease) and when diagnoses other than pancreatitis may be possible (bowel perforation, bowel ischemia, etc). Initial imaging.**

Procedure	Appropriateness Category	Relative Radiation Level
CT abdomen and pelvis with IV contrast	Usually Appropriate	☢☢☢
MRI abdomen without and with IV contrast with MRCP	Usually Appropriate	O
CT abdomen and pelvis without IV contrast	May Be Appropriate	☢☢☢
MRI abdomen without IV contrast with MRCP	May Be Appropriate	O
US abdomen	May Be Appropriate	O
US duplex Doppler abdomen	May Be Appropriate	O
CT abdomen and pelvis without and with IV contrast	Usually Not Appropriate	☢☢☢☢
US abdomen with IV contrast	Usually Not Appropriate	O

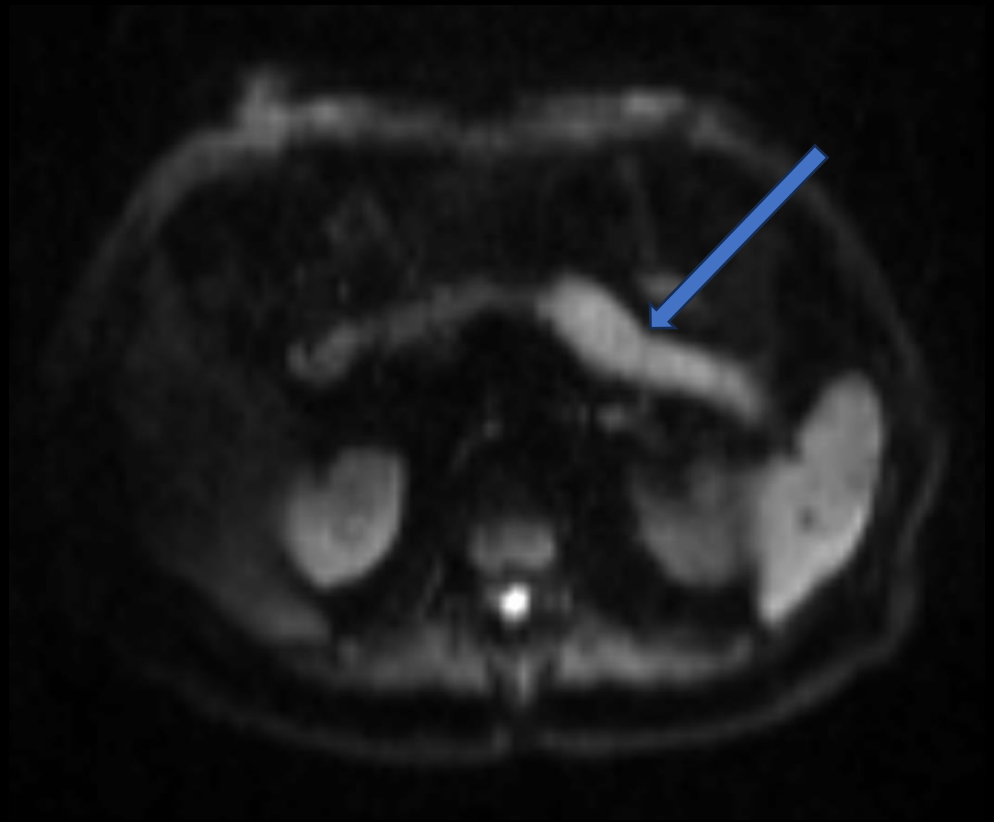
This imaging modality was ordered by the gastroenterologist

MRI Abdomen without IV contrast Findings (unlabeled)

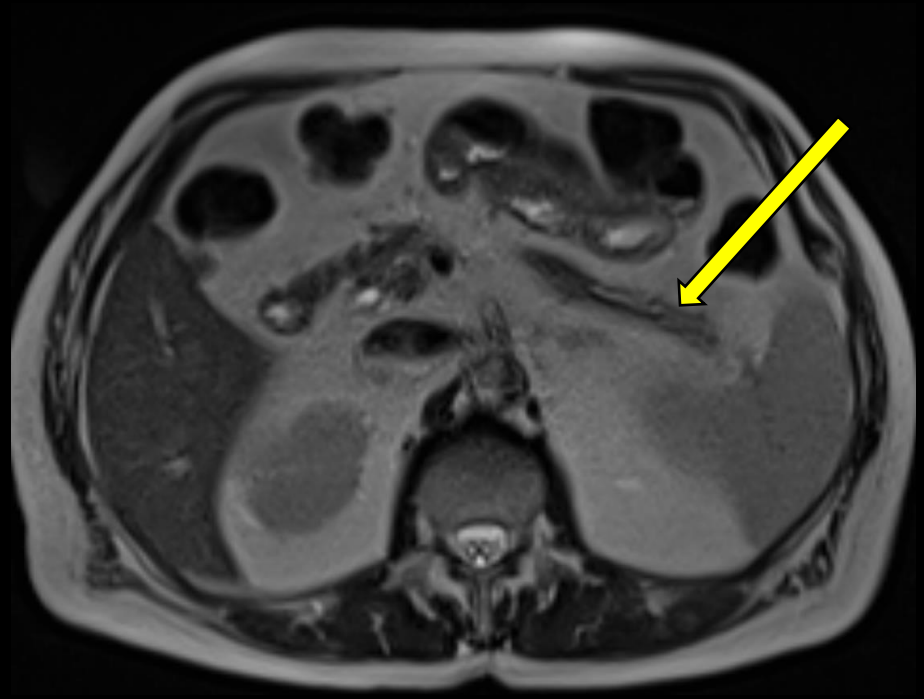




MRI Abdomen without IV contrast (labeled)



Axial DWI (B=750) showing diffusion restriction of the pancreas (blue arrow).



Axial thin section T2 showing severe pancreatic atrophy with segmental duct dilation (yellow arrow).

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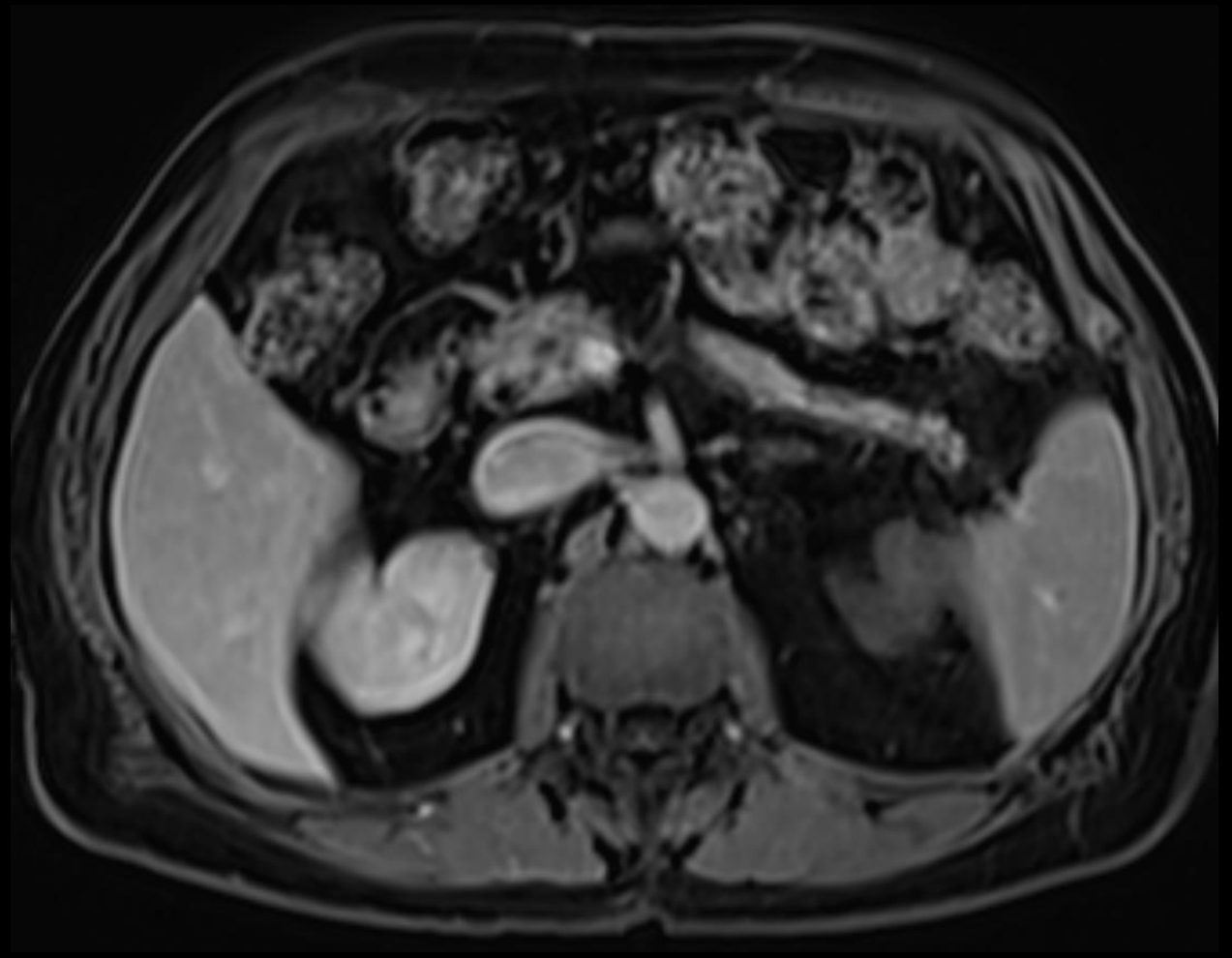
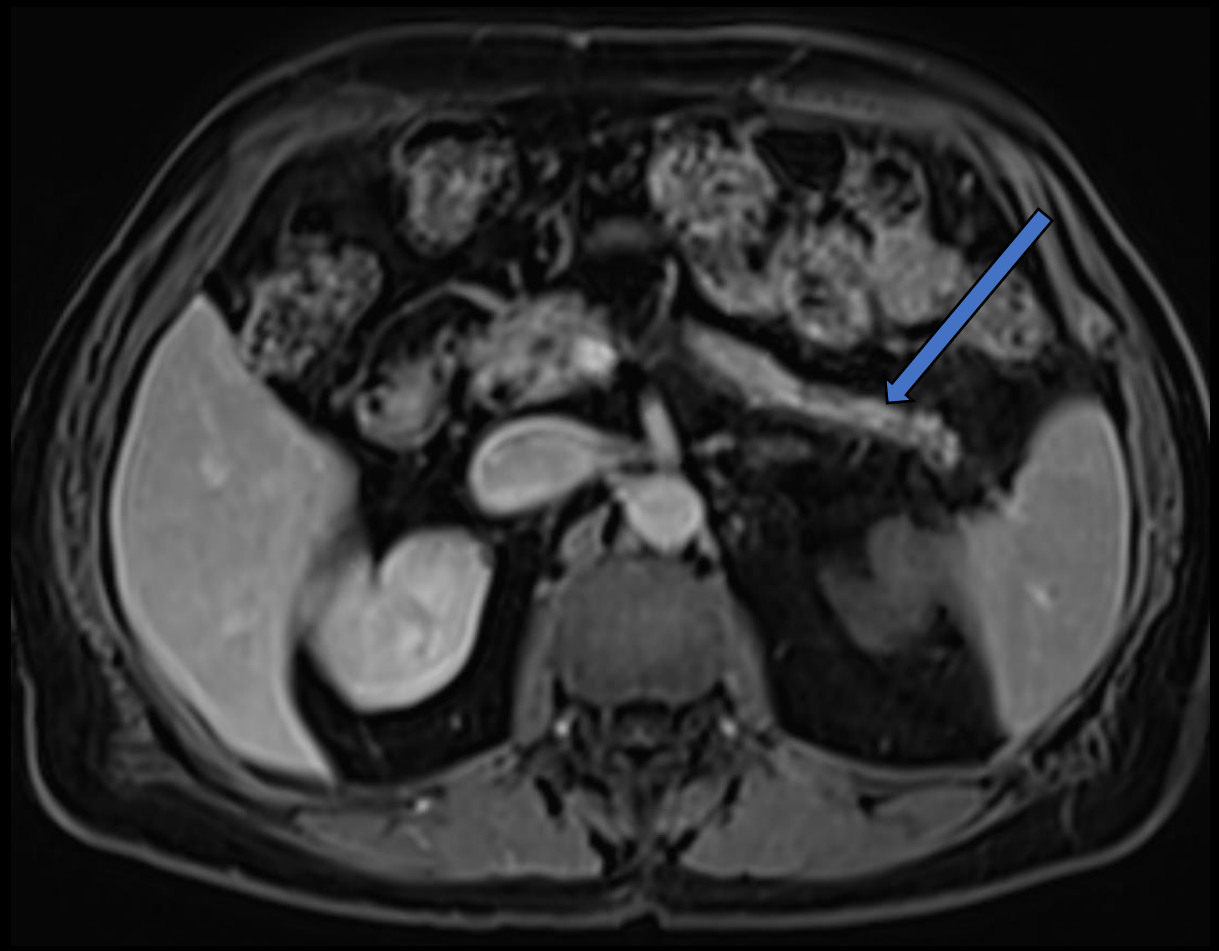
MRI Abdomen with IV contrast (unlabeled)

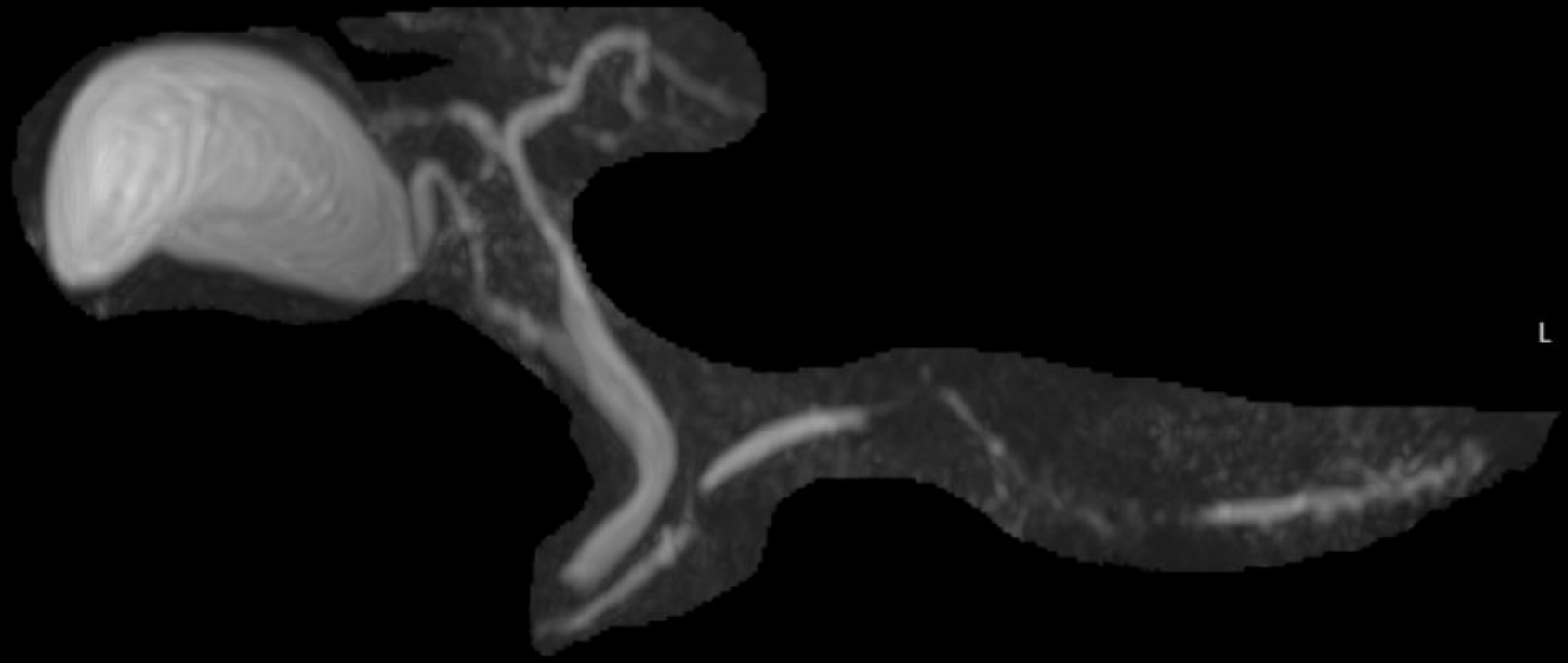


MRI Abdomen with IV contrast (labeled)

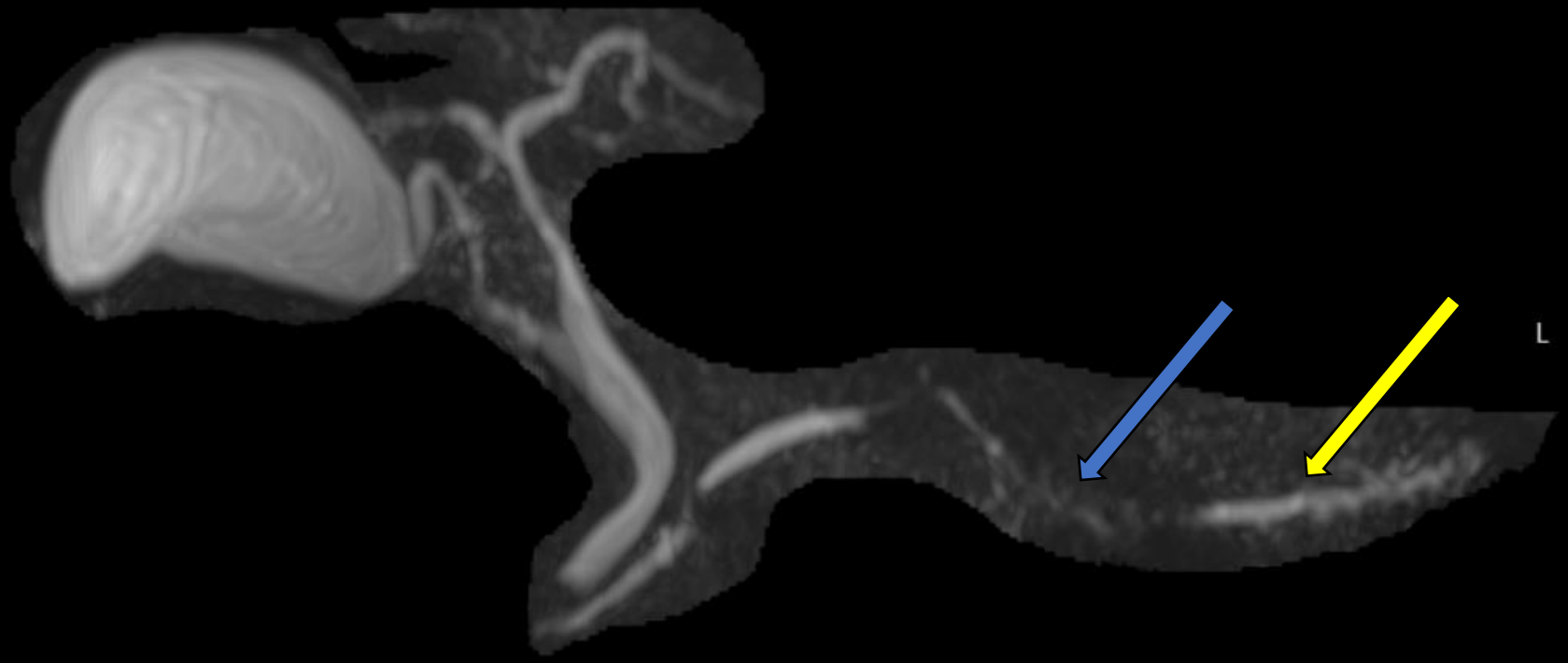


Axial SPGR with fat saturation showing severe pancreatic atrophy (blue arrow).

MRCP Findings (unlabeled)



MRCP Findings (labeled)



Thin section 3D MRCP maximal intensity projection showing severe strictures (blue arrow) and upstream dilatation (yellow arrow) of the pancreatic duct and side branches.

Final Dx:

Type 1 autoimmune pancreatitis (IgG4-related disease)

Case Discussion

- Definition: uncommon cause of pancreatic inflammation that is typically associated with other autoimmune conditions
- Etiology: usually related to IgG4 autoantibodies
- Epidemiology:
  - More common in males
  - >90% of patients are more than 40 years of age
- Common clinical features:
  - Painless jaundice
  - Pancreatic insufficiency
  - Weight loss
  - Abdominal pain
  - New or worsening hyperglycemia

Case Discussion Continued

- Diagnostic features:
  - Serology: IgG4 levels typically >2x upper limit of normal
  - Histology: lymphoplasmacytic infiltrate
  - Imaging:
    - CT: diffuse or focal enlargement of the pancreas ("sausage-shaped pancreas"), peripancreatic rim of low attenuation ("halo" sign), peripancreatic fat-stranding
    - MRI: decreased signal intensity of T1, minimal increased intensity on T2, diffusion-restriction with high DWI signal and low ADC, narrowing of the pancreatic duct on MRCP
- Treatment:
  - Mainstay of treatment is glucocorticoids
  - Rituximab, azathioprine, or mycophenolate mofetil are used in some cases
- Prognosis:
  - Largely unknown
  - Relapse rate >50%
  - Higher risk of pancreatic cancer similar to patients with chronic pancreatitis

References:

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